Detailed Technical Specification for High Visibility Rainwear for BESCOM

1. Scope

This specification defines the requirements for High Visibility Rainwear intended for BESCOM linemen, ensuring compliance with IS 15809:2017 or its latest version with all the amendments.

2. Standards & Compliance

The rainwear design, colour and reflective material shall conform to Class 2 type 1 of the latest version of IS 15809:2017.

3. Fabric Requirements

- Shell Fabric:
  - 100% Polyester taffeta fabric in fluorescent yellow/green as per Type-1 of IS 15809.
  - Minimum weight of 125 GSM ± 5%, with breathable PU coating for durability and water resistance.
  - All seam and stitch points shall be thermally sealed with tapes to prevent water seepage and enhance durability.
- Inner Liner Fabric:
  - Polyester fabric of 40 GSM ± 5% in self-colour.

4. Design & Features

a. Pockets
- Two internal pockets for holding a smartphone and documents.
- Two front cross pockets with flaps to prevent water entry.

b. Reflective Material
- Reflective tape width: 50 mm, as per Class 2 requirements of IS 15809.
- Reflectivity levels: should be tested under wet / rainwater condition the reflective values should be ≥500 cd/lux before washing and ≥100 cd/lux after 50 washes as per IS 15809.
- Reflective tape material shall be made from non-hazardous glass beads.
- **Taping format:**
  Jackets: Two vertical reflective tapes at the shoulder sides and one horizontal reflective strip positioned at vest level above the front cross pockets.
  Trousers: One reflective band positioned at ≤ 350mm and another reflective band positioned at ≥ 50mm above the bottom of the trouser sleeves as per Fig 3 of IS 15809.

c. Fasteners & Adjustments
- Zipper: High-quality polymeric zipper with durable teeth.
- Velcro Fastening:

- Wrist Adjustable – To customize fit.
- Neck Strap – To prevent water and air ingress.
- Front Zipper Flap – 3-4 numbers for the protective flaps.

- Cord lock:
  - Adjustable Cord lock for jacket width regulation.
  - Adjustable Cord lock for a snug fit around the face.

d. Hood
- Adjustable type hood shall be stitched to rainwear.

e. Trouser Waist Adjustment
- Full-round elastic type for a comfortable fit.

5. Sizes

Two sizes shall be provided and finalized at the time of the purchase order (PO) based on approved samples.

6. Marking, Labelling and Branding

- BESCOM logo (4 x 3 inches) shall be sublimated or screen-printed on the front chest area in peacock blue colour. Reflectivity levels shall of 700 cd/lux after 75 washes.
- The BESCOM name should be provided on the back side using silver-grey heat-transferable reflective material, applied through thermal transfer or heat lamination with the following specifications:
  - Kannada letters **" ಬೆಎಿಕಂ"** positioned at the upper chest level of size 8 x 3 inches.
  - English letters **"BESCOM"** positioned below the horizontal reflective tape strip of size 11 x 3 inches.
- Labels for Brand Name, Size & Wash Care shall be provided.

7. General Requirements

The rainwear shall be designed for utility workers, ensuring maximum visibility in foul / rainy weather conditions, durability, and weather protection.

8. Type tests and certification:

Test reports from a Government NABL Accredited Lab shall be furnished for the following:

1. Shell Fabric test report.
   - Material Identification (Polyester)
   - Coating identification (PU coating)
   - Fabric Colour as per IS 15809 Type 1 requirement
   - Tear Strength (Wrap & Weft).
   - Tensile/ Strength (Wrap & Weft).
   - Coated fabric Breathability
   - Coated fabric GSM
   - Waterproofness:
     1. No leakage at 60 cm water column.
     2. No leakage at taped joints at 60 cm water column.
   - Retroreflection after test exposure for following test as per IS 15809:2017
     - Abrasion
     - Flexing
     - Temperature variation

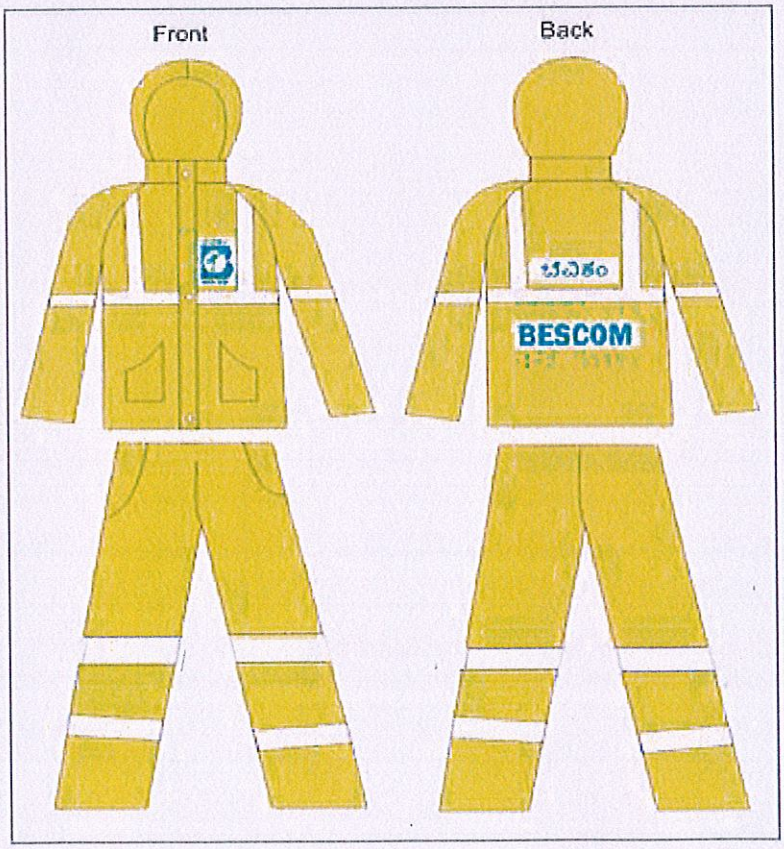
- Washing
- Dry-cleaning
- Influence of rainfall

2. Reflective material testing for tapes and heat transfer materials :
   - Reflectivity levels under wet / rainwater conditions, as per IS 15809:
     1. ≥500 cd/lux before washing.
     2. ≥100 cd/lux after 50 washes.

9. Acceptance test requirement

- Physical dimensions of sizes
- Dimensions of logo and branding
- Dimensions of reflective materials
- Verification of type test reports
- Material sourcing verification with the type test reports
- 01 sample from each lot of material offered for inspection will be selected and sent to Textiles Committee Lab of GoI/ or any other testing lab recognized by Ministry of Textiles (GoI) to carry out the tests as specified under clause 7 "Type Tests and certification".

Sample Reference Images



General Manager (Ele)
Quality Standards & Safety,
BESCOM